COMPUTER SCIENCE

About Computer Science

The School of Computer Science is one of the leading teaching and research centres for computer science in Canada and offers several graduate programs. The Master of Science (M.Sc.) Thesis and Doctor of Philosophy (Ph.D.) are research-centric programs preparing students for research careers in academia or industry. They both offer an option in bioinformatics. The Master of Science (M.Sc.) Non-Thesis program is targeted at students looking for careers in applied research and development in industry. In all programs, students will be exposed to cutting-edge computer science developments. Research in the School covers a broad range of areas, including:

- **Theory:** algorithms, combinatorial optimization, computational geometry, cryptography, graph theory, logic and computation, programming languages, quantum computing, theory of computation, and scientific computing;
- **Systems:** compilers, computer games, distributed systems, storage systems, database systems, embedded and real-time systems, systems for data science, networks, software engineering, and model engineering;
- **Applications:** bioinformatics, many areas of artificial intelligence and machine learning, bioinformatics, robotics, computer animation, graphics, vision, and Human Factors in Computing.

More information can be found on the School's website.

Program Overview

The **Master of Science (M.Sc.) Computer Science (Thesis)** is designed for students with a strong interest in research in computer science who hold at least the equivalent of an undergraduate minor in CS. This program combines a strong course component with a research thesis. It is the usual (but not mandatory) entry point for students who wish to do a Ph.D., but is also the program of choice for students who want to find challenging and exciting jobs after their master's.

The **Master of Science (M.Sc.) Computer Science (Non-Thesis)** is for students who want to obtain broad knowledge of advanced topics in computer science but without the requirement of a thesis. It offers an excellent preparation for the job market, but is not recommended for students interested in eventually pursuing a Ph.D.

The **Doctor of Philosophy (Ph.D.) Computer Science** trains students to become strong, independent researchers in the field of their choice. Our graduates take challenging positions in industry or take academic positions at universities and research labs. In order to apply to the Ph.D. program, applicants should normally hold a master's degree in Computer Science or a closely related area, from a well-recognized university, but exceptional students can be admitted to the Ph.D. program directly without a master's degree.

The Department also offers the **Master of Science (M.Sc.) Computer Science (Thesis): Bioinformatics**. Bioinformatics research lies at the intersection of biological/medical sciences and mathematics/computer science/engineering. The intention of the Bioinformatics option is to train students to become researchers in this interdisciplinary field. This includes the development of strategies for experimental design, the construction of tools to analyze datasets, the application of modelling techniques, the creation of tools for manipulating bioinformatics data, the integration of biological databases, and the use of algorithms and statistics. Those wishing to take their studies of Bioinformatics further can apply to McGill's **Doctor of Philosophy (Ph.D.) Computer Science: Bioinformatics**.

Computer Science Admission Requirements and Application Procedures

Admission Requirements

Master of Science (M.Sc.)

The minimum requirement for admission is a bachelor's degree (cumulative grade point average (CGPA) of 3.2 out of 4.0 or better, or equivalent) with the coursework in Computer Science and Mathematics as listed on our School's website. The website supplements the information in this publication, and should be consulted by all graduate students.

Ph.D.

In order to apply to the Ph.D. program, applicants should hold an M.Sc. degree in Computer Science or a closely related area from a well-recognized university. Students who hold a B.Sc. degree in Computer Science but have an exceptionally strong academic record may be admitted directly to the Ph.D. program, but they must initially apply to the M.Sc. program. Students who are in the M.Sc. program have the option to be fast-tracked into the Ph.D. program at the end of their first academic year, contingent on excellent performance as judged by the Ph.D. committee.

Application Procedures

McGill's online application form for graduate program candidates is available at mcgill.ca/gradapplicants/apply.

See Application Procedures for detailed information.

Additional Requirements

The items and clarifications below are additional requirements set by this department:

- Curriculum Vitae – required for both M.Sc. and Ph.D. programs
- Statement of Purpose – required for both M.Sc. and Ph.D. programs
- Graduate Record Examination (GRE General Test) is optional for all programs.

For further details about each required document, consult the School of Computer Science's website.

Application Dates and Deadlines

Application opening dates are set by Enrolment Services in consultation with Graduate and Postdoctoral Studies (GPS), while application deadlines are set by the School of Computer Science and may be revised at any time. Applicants must verify all deadlines and documentation requirements well in advance on the appropriate McGill departmental website; please consult the list at mcgill.ca/gps/contact/graduate-program.

Information on application deadlines is available at mcgill.ca/gradapplicants/how-apply/application-steps/application-deadlines.

Admission to graduate studies is competitive; accordingly, late and/or incomplete applications are considered only as time and space permit.

For further details on our admission requirements, please visit our website at cs.mcgill.ca/graduate/future/overview/.

Scholarship Deadlines: December 15 for applicants who wish to be considered for scholarship awards; otherwise, December 15 for International and February 15 for Canadian students for admission to the Fall term.

Available Programs

- Computer Science (Non-Thesis) (M.Sc.) (45 credits)
- Computer Science (Ph.D.)
- Computer Science (Thesis) (M.Sc.) (45 credits)
- Computer Science (Thesis): Bioinformatics (M.Sc.) (45 credits)
- Computer Science: Bioinformatics (Ph.D.)

Location

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